IN THE CLAIMS

Please amend the claims as follows.

1. (Currently Amended) A method, comprising:

receiving a projection associated with a first signal and a second signal, the second signal comprising a first portion associated with the first signal and a second portion not associated with the first signal, the projection at least ~~substantially separating~~ partially isolating the first portion of the second signal from the second portion of the second signal; [[and]]

identifying one or more parameters of a model using at least a portion of the projection, the model associating the first signal and the first portion of the second signal; and

outputting the one or more model parameters for use in processing one or more signals.

2. (Original) The method of Claim 1, wherein identifying the one or more model parameters comprises:

identifying one or more pole candidates and one or more model candidates using the projection; and

selecting at least one of the one or more pole candidates and selecting at least one of the one or more model candidates as the model parameters.

3. (Original) The method of Claim 1, wherein:

the projection comprises an orthogonal matrix and an upper triangular matrix; and

the upper triangular matrix has a plurality of values along a first diagonal of the upper triangular matrix, each value being greater than or equal to zero.

4. (Original) The method of Claim 3, wherein identifying the one or more model parameters comprises:

defining one or more areas in the upper triangular matrix; and

identifying one or more pole candidates using the one or more defined areas, the one or more model parameters comprising at least one of the one or more pole candidates.

5. (Original) The method of Claim 4, wherein:

the upper triangular matrix comprises the first diagonal and a second diagonal, the diagonals dividing the upper triangular matrix into upper, lower, left, and right sections; and

the one or more defined areas in the upper triangular matrix are located in the right section of the upper triangular matrix.

6. (Original) The method of Claim 4, wherein:

the one or more defined areas in the upper triangular matrix comprise one or more first defined areas; and

identifying the one or more model parameters further comprises:

defining one or more second areas in the upper triangular matrix; and

identifying one or more model candidates using the one or more second defined areas, the one or more model parameters comprising at least one of the one or more model candidates.

7. (Original) The method of Claim 6, wherein each of the one or more second defined areas represents a matrix centered along the first diagonal of the upper triangular matrix.

8. (Original) The method of Claim 7, wherein:

each matrix centered along the first diagonal of the upper triangular matrix comprises a backward column Hankel matrix; and

identifying the one or more model candidates comprises rewriting each backward column Hankel matrix as a forward column Hankel matrix.

9. (Original) The method of Claim 4, wherein:

defining the one or more areas in the upper triangular matrix comprises defining multiple areas in the upper triangular matrix; and

identifying the one or more model parameters comprises identifying one or more model parameters for each of the defined areas in the upper triangular matrix.

10. (Original) The method of Claim 9, wherein:

the one or more model parameters associated with different defined areas in the upper triangular matrix are different; and

identifying the one or more model parameters further comprises selecting the one or more model parameters associated with a specific one of the defined areas in the upper triangular matrix.

11. (Original) The method of Claim 10, wherein:

the upper triangular matrix comprises a first upper triangular matrix; and

selecting the one or more model parameters associated with the specific one of the defined areas in the first upper triangular matrix comprises:

for each defined area in the first upper triangular matrix, generating a matrix comprising a forward column Hankel matrix based on a prediction error, the prediction error associated with the one or more model parameters that are associated with that defined area;

for each generated matrix, performing canonical QR-decomposition on the matrix to form a second orthogonal matrix and a second upper triangular matrix, each second upper triangular matrix having an upper right portion denoted R_{E3};

for each second upper triangular matrix, identifying a value for $\|R_{E3}\|_2^2$; and

selecting the one or more model parameters associated with the defined area having the second upper triangular matrix with a smallest value for $\|R_{E3}\|_2^2$.

12. (Currently Amended) An apparatus, comprising:

at least one input operable to receive a first signal and a second signal, the second signal comprising a first portion associated with the first signal and a second portion not associated with the first signal; and

at least one processor operable to:

generate a projection associated with the first and second signals and to identify one or more parameters of a model associating the first signal and the first portion of the second signal using at least a portion of the projection, the projection at least ~~substantially separating~~ partially isolating the first portion of the second signal from the second portion of the second signal; and

output the one or more model parameters for use in processing one or more signals.

13. (Original) The apparatus of Claim 12, wherein the at least one processor is operable to identify the one or more model parameters by:

identifying one or more pole candidates and one or more model candidates using the projection; and

selecting at least one of the one or more pole candidates and selecting at least one of the one or more model candidates as the model parameters.

14. (Original) The apparatus of Claim 12, wherein:

the projection comprises an orthogonal matrix and an upper triangular matrix; and

the upper triangular matrix has a plurality of values along a diagonal of the upper triangular matrix, each value being greater than or equal to zero.

15. (Original) The apparatus of Claim 14, wherein the at least one processor is operable to identify the one or more model parameters by:

defining one or more areas in the upper triangular matrix; and

identifying one or more pole candidates using the one or more defined areas, the one or more model parameters comprising at least one of the one or more pole candidates.

16. (Original) The apparatus of Claim 15, wherein:

the one or more defined areas in the upper triangular matrix comprise one or more first defined areas; and

the at least one processor is operable to identify the one or more model parameters further by:

defining one or more second areas in the upper triangular matrix; and

identifying one or more model candidates using the one or more second defined areas, the one or more model parameters comprising at least one of the one or more model candidates.

17. (Original) The apparatus of Claim 16, wherein:

each of the one or more second defined areas represents a matrix centered along the first diagonal of the upper triangular matrix;

each matrix centered along the first diagonal of the upper triangular matrix comprises a backward column Hankel matrix; and

the at least one processor is operable to identify the one or more model candidates by rewriting each backward column Hankel matrix as a forward column Hankel matrix.

18. (Original) The apparatus of Claim 15, wherein:

the at least one processor is operable to define the one or more areas in the upper triangular matrix by defining multiple areas in the upper triangular matrix; and

the at least one processor is operable to identify the one or more model parameters by identifying one or more model parameters for each of the defined areas in the upper triangular matrix.

19. (Original) The apparatus of Claim 18, wherein:

the upper triangular matrix comprises a first upper triangular matrix;

the one or more model parameters associated with different defined areas in the first upper triangular matrix are different; and

the at least one processor is operable to select the one or more model parameters associated with a specific one of the defined areas in the upper triangular matrix by:

for each defined area in the first upper triangular matrix, generating a matrix comprising a forward column Hankel matrix based on a prediction error, the prediction error associated with the one or more model parameters that are associated with that defined area;

for each generated matrix, performing canonical QR-decomposition on the matrix to form a second orthogonal matrix and a second upper triangular matrix, each second upper triangular matrix having an upper right portion denoted R_{E3};

for each second upper triangular matrix, identifying a value for $\|R_{E3}\|_2^2$; and

selecting the one or more model parameters associated with the defined area having the second upper triangular matrix with a smallest value for $\|R_{E3}\|_2^2$.

20. (Currently Amended) A computer program embodied on a computer readable medium and operable to be executed by a processor, the computer program comprising computer readable program code for:

receiving a projection associated with a first signal and a second signal, the second signal comprising a first portion associated with the first signal and a second portion associated with at least one disturbance, the projection at least ~~substantially separating~~ partially isolating the first portion of the second signal from the second portion of the second signal; [[and]]

identifying one or more parameters of a model associating the first signal and the first portion of the second signal using at least a portion of the projection; and

outputting the one or more model parameters for use in processing one or more signals.

21. (Original) The computer program of Claim 20, wherein the computer readable program code for identifying the one or more model parameters comprises computer readable program code for:

identifying one or more pole candidates and one or more model candidates using the projection; and

selecting at least one of the one or more pole candidates and selecting at least one of the one or more model candidates as the model parameters.

22. (Original) The computer program of Claim 20, wherein:

the projection comprises an orthogonal matrix and an upper triangular matrix; and

the upper triangular matrix has a plurality of values along a diagonal of the upper triangular matrix, each value being greater than or equal to zero.

23. (Original) The computer program of Claim 22, wherein the computer readable program code for identifying the one or more model parameters comprises computer readable program code for:

defining one or more first areas in the upper triangular matrix;

identifying one or more pole candidates using the one or more first defined areas;

defining one or more second areas in the upper triangular matrix; and

identifying one or more model candidates using the one or more second defined areas, the one or more model parameters comprising at least one of the one or more pole candidates and at least one of the one or more model candidates.

24. (Original) The computer program of Claim 23, wherein:

each of the one or more second defined areas represents a matrix centered along the first diagonal of the upper triangular matrix;

each matrix centered along the first diagonal of the upper triangular matrix comprises a backward column Hankel matrix; and

the computer readable program code for identifying the one or more model candidates further comprises computer readable program code for rewriting each backward column Hankel matrix as a forward column Hankel matrix.

25. (Original) The computer program of Claim 23, wherein:

the computer readable program code for defining the one or more first areas in the upper triangular matrix defines multiple first areas in the upper triangular matrix; and

the computer readable program code for identifying the one or more model parameters comprises computer readable program code for identifying one or more model parameters for each of the first defined areas in the upper triangular matrix.

26. (Original) The computer program of Claim 25, wherein:

the upper triangular matrix comprises a first upper triangular matrix;

the one or more model parameters associated with different first defined areas in the first upper triangular matrix are different; and

the computer readable program code for identifying the one or more model parameters further comprises computer readable program code for selecting the one or more model parameters associated with a specific one of the first defined areas in the upper triangular matrix.

27. (Original) The computer program of Claim 26, wherein the computer readable program code for selecting the one or more model parameters associated with the specific one of the first defined areas comprises computer readable program code for:

for each first defined area in the first upper triangular matrix, generating a matrix comprising a forward column Hankel matrix based on a prediction error, the prediction error associated with the one or more model parameters that are associated with that first defined area;

for each generated matrix, performing canonical QR-decomposition on the matrix to form a second orthogonal matrix and a second upper triangular matrix, each second upper triangular matrix having an upper right portion denoted R_{E3};

for each second upper triangular matrix, identifying a value for $\|R_{E3}\|_2^2$; and

selecting the one or more model parameters associated with the first defined area having the second upper triangular matrix with a smallest value for $\|R_{E3}\|_2^2$.

28. (New) The method of Claim 1, wherein the projection at least partially isolates the first portion of the second signal from the second portion of the second signal in an orthogonal space.

29. (New) The apparatus of Claim 12, wherein the at least one processor is operable to output the one or more model parameters for use in processing one or more signals by:

storing the one or more model parameters; and

using the one or more stored model parameters to de-noise the second signal.